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13. ABSTRACT (Maximum 200 words) <p>The purpose of this workshop was to provide an in-depth look at the progress in active materials and smart structures with an emphasis on Air Force systems. The technology of smart structures promises a large number of potential uses and performance enhancements for air vehicles and space systems. This workshop brought together researchers from academia, the national labs, and the aerospace industry with the focus of the discussion on Air Force systems. Every effort was made to make the workshop a two-way stream and expose researchers to the problems and needs of the Air Force as well as presenting state-of-the-art research related to active materials and smart structures. Topics discussed were, among others, actuator/sensor concepts, aerodynamic control using active materials, active propulsion systems, and smart space systems.</p>				
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Final Report on
AFOSR Workshop on Research and Applications of
Active Materials and Smart Structures

Aero-SMART 2000
Texas A&M University
September 20-21, 2000

Organized by

Dimitris C. Lagoudas, Texas A&M University
Maj. Brian Sanders, AFRL Air Vehicles Directorate
Charles Cross, AFRL Propulsion Directorate
Steven Griffin, AFRL Space Directorate
Edward White, The Boeing Company

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Workshop Objectives

The purpose of this workshop was to provide an in-depth look at the progress in active materials and smart structures with an emphasis on Air Force systems. The technology of smart structures promises a large number of potential uses and performance enhancements for air vehicles and space systems. This workshop brought together researchers from academia, the national labs, and the aerospace industry with the focus of the discussion on Air Force systems. Every effort was made to make the workshop a two-way stream and expose researchers to the problems and needs of the Air Force as well as presenting state-of-the-art research related to active materials and smart structures. Topics discussed were, among others, actuator/sensor concepts, aerodynamic control using active materials, active propulsion systems, and smart space systems.

Workshop Outcome

- Assessment of progress to date in active materials and smart structures, emphasizing Air Force relevant applications.
- Assessment of degree of readiness of various technologies for implementation into Air Force systems.
- Establishment of collaboration among faculty from academia and researchers from AFRL and industry
- Technical presentations on latest research development and trends related to sensors and actuators, aerodynamic control using active materials, active propulsion systems and smart space systems

AFOSR Aero-SMART 2000 Participants

September 20-21, 2000

Name	E-Mail Address	Affiliation
Agnes, Gregory S.	Gregory.Agnes@afit.af.mil	Air Force Institute of Technology
Alfriend, Terry	alfriend@aero.tamu.edu	TAMU
Alonso, Ray	rjalonso@unity.ncsu.edu	North Carolina State Univ.
Anderson, Eric	eric.anderson@csaengineering.com	CSA Engineering
Ayala, John	john.ayala@tamu.edu	TCAT-Aircraft Sustainability Lab
Anjanappa, M. (Appa)	anjanapp@umbc.edu	Univ. Maryland-Baltimore County
Beskok, Ali	abeskok@mengr.tamu.edu	Texas A&M Univ.
Bhattacharyya, Abhijit	a.bhatta@ualberta.ca	Univ. of Alberta (CANADA)
Boyd, Jim	jboyd@aero.tamu.edu	Univ. Illinois - Chicago
Bryant, Robert	r.g.bryant@larc.nasa.gov	NASA Langley
Carman, Greg	carman@seas.ucla.edu	Univ. California - Los Angeles
Cesnik, Carlos	ccesnik@mit.edu	MIT
Chen, Yi-Chao	chen@uh.edu	University of Houston
Cizmas, Paul	cizmas@aero.tamu.edu	Texas A&M Univ.
Clifton, Rod	clifton@engin.brown.edu	Brown Univ.
Crane, Carl	ccrane@ufl.edu	University of Florida
Crassidis, John	crassidis@aero.tamu.edu	TAMU
Creasy, Terry	tcreasy@mengr.tamu.edu	TAMU
Cross, Charles	charles.cross@wpafb.af.mil	USAF-Wright-Patterson AFB
Cross, Eric	LEC3@psu.edu	Penn State
Cunefare, Kenneth	kcunefar@sununo.me.gatech.edu	Georgia Institute of Technology
DeGiorgi, Virginia	degiorgi@anvil.nrl.navy.mil	Naval Research Laboratory
Dowell, Earl	carrick@me1.egr.duke.edu	Duke Univ.
Duffy, Joseph	duffy@cimar.me.ufl.edu	Univ. of Florida
Dunand, David	dunand@northwestern.edu	Northwestern Univ.
Duval, Luis Denit	ldduval@eos.ncsu.edu	North Carolina State Univ.
Fleeter, Sanford	fleeter@ecn.purdue.edu	Purdue
Flick, Pete	peter.flick@wpafb.af.mil	USAF
Florance, Jennifer	j.p.florance@larc.nasa.gov	NASA Langley
Fry, Gary	g-fry@tamu.edu	TAMU
Gandy, Michael	mike.d.gandy@lmco.com	Lockheed Martin
Garcia, Ephraim	egarcia@darpa.mil	DARPA
Hahn, Tom	thomas.hahn@afosr.af.mil	AFOSR/NA - Structural Mech.
Helms, Kayleen	kayleen@tamu.edu	TAMU
Henderson, Kyle	henderson@plk.af.mil	USAF
Horta, Lucas	l.g.horta@larc.nasa.gov	NASA Langley
Hubbard, James E.	jhubbard@bu.edu	Photosense Inc.
Huston, Dryver	huston@emba.uvm.edu	Univ. of Vermont
Imbrie, P.K.	imbrie@purdue.edu	Purdue Univ.
Inman, Dan	dinman@vt.edu	Virginia Tech
James, Rick	james@umn.edu	Univ. of Minnesota
Jenkins, Christopher	CJENKINS@taz.sdsmt.edu	South Dakota State
Junkins, John	junkins@tamu.edu	TAMU
Kinra, Vikram	kinra@tamu.edu	TAMU
Kloucek, Petr	kloucek@caam.rice.edu	Rice University
Kudva, Jay	kudvaja@mail.northgrum.com	Northrop Grumman
Kuo, Way	way@tamu.edu	TAMU
Lagoudas, Dimitris	dlagoudas@aero.tamu.edu	TAMU
Lagoudas, Magda	lagoudas@entc.tamu.edu	TAMU
Levitas, Valery	Valery.Levitas@coe.ttu.edu	Texas Tech Univ.
Lindner, Douglas	lindner@vt.edu	Virginia Tech

AFOSR Aero-SMART 2000 Participants

September 20-21, 2000

Maday, Rob	rmaday@qrdc.com	QRDC Inc.
Mayer, Arnold	Arnold.Mayer@wpafb.af.mil	Wright Patterson
McGowan, Anna	a.r.mcgowan@larc.nasa.gov	NASA Langley
McMeeking, Bob	rmcm@engineering.ucsb.edu	Univ. California - Santa Barbara
Miller, David	dmiller@lanl.gov	Los Alamos National Labs
Niezrecki, Christopher	niezreck@ufl.edu	Univ. of Florida
Noah, Sherif	Snoah@mengr.tamu.edu	Texas A&M Univ.
Noori, Mohammad	mohammad_noori@ncsu.edu	North Carolina State Univ.
Ochoa, Ozden	oochoa@mengr.tamu.edu	Texas A&M Univ.
Pulliam, Wade	pulliamw@lunainnovations.com	F&S, Inc.
Qidwai, Muhammad	qidwai@anvil.nrl.navy.mil	Naval Research Laboratory
Rediniotis, Othon	rediniotis@tamu.edu	Texas A&M Univ.
Rodgers, John	rodgers@mide.com	Starboard Innovations
Rogowski, Robert	r.s.rogowski@larc.nasa.gov	NASA Langley
Romo, John	john_romo@hotmail.com	City University New York
Rupel, Arthur	Arupel@pica.army.mil	U.S. Army Research Office
Saadat, Soheil	ssaadat@eos.ncsu.edu	North Carolina State Univ.
Sanders, Brian	Brian.Sanders@wpafb.af.mil	USAF
Sater, Janet	jsater@ida.org	Institute for Defense Analyses
Scott, Robert	r.c.scott@larc.nasa.gov	NASA Langley
Segalman, Dan	daniel.segalman@afosr.af.mil	AFOSR/NA - Structural Mech.
Shelley, Jeigh S.	jeigh.shelley@ple.af.mil	USAF - Edwards AFB
Skelton, Bob	bobskelton@ucsd.edu	Univ. of California - San Diego
Slattery, John	slattery@tamu.edu	TAMU
Spain, Charles V.	c.v.spain@larc.nasa.gov	NASA Langley
Valasek, John	valasek@aero.tamu.edu	Texas A&M Univ.
Venkayya, Vippera	Vipperla.Venkayya@va.wpafb.af.mil	USAF
Vinogradov, A.	vinograd@me.montana.edu	Montana State Univ.
Wang, Kon-Well	kwwang@psu.edu	Penn State
Weber, Yvette	yvette.weber@va.wpafb.af.mil	WPAFB
Weisshaar, Terrence	weisshaa@ecn.purdue.edu	USAF
White, Ed	edward.v.white@boeing.com	Boeing
White, Scott	swhite@uiuc.edu	University of Illinois
Williams, Glen	g-williams@tamu.edu	Texas A&M Univ.
Winzer, Steve	steve.winzer@lmco.com	Lockheed Martin
Yuan, Fu-Gwo	yuan@eos.ncsu.edu	North Carolina State Univ.
Yu, Hsiang	yu@anvil.nrl.navy.mil	Naval Research Laboratory

Students

Entchev, Pavlin	pavlin@aero.tamu.edu	TAMU - Student
Gilarranz, Jose	gilarranz@tamu.edu	TAMU - Student
Godard, Olivier	Olivier_godard@hotmail.com	TAMU - Student
Johansen, Espen	espen@aero.tamu.edu	TAMU - Student
Khan, Mughees	mkhan@tamu.edu	TAMU - Student
Li, Changcheng	ccli@tamu.edu	TAMU - Student
Mani, Raghav	raghav@tamu.edu	TAMU - Student
Mayes, JJ	jimayes@aero.tamu.edu	TAMU - Student
Popov, Peter	ppopov@tamu.edu	TAMU - Student
Strelec, Justin	jkstrelac@aero.tamu.edu	TAMU - Student
Thompson, David	robodave@tamu.edu	TAMU - Student
Vandygriff, Eric	evandygriff@tamu.edu	TAMU - Student
Williams, Justin	jwilliams@aero.tamu.edu	TAMU - Student



Aero-SMART 2000
 A Workshop Sponsored by the
 Air Force Office of Scientific Research
 September 20-21, 2000
 Texas A&M University, College Station, TX



Program

Wednesday, September 20, 2000

	Introduction / Air Vehicles / Space Systems
7:30	Registration and Continental Breakfast
8:00	Brian Sanders and Dimitris Lagoudas - <i>Opening Remarks</i>
8:30	Terri Weisshaar - <i>Active Materials and Smart Structures: Their Role in the Aerospace Force</i>
9:00	Yvette Weber - <i>New Air Force Air Vehicle Systems</i>
9:30	Eric Cross - <i>Overview of Active Materials</i>
10:00	Dan Inman - <i>Overview of Control of Adaptive Structures</i>
10:30	Morning Break with refreshments
11:00 Group Discussions Current Use of Active Materials / Smart Structures Group 1a: Jay Kudva - <i>Use of Active Materials / Actuators / Sensors in Aerospace Applications</i> Group 1b: Edward White - <i>Air Force Related Smart Structures – Smart Systems</i>	
12:30	Lunch – Speaker- Ephraim Garcia
	System Concepts
2:00	Carlos Cesnik - <i>Active Aeroelastic Tailoring</i>
2:30	Peter Flick - <i>Aeroelastic Wing Technologies as Enablers for Smart Structures</i>
3:00	Jack Jacobs and Ed White - <i>Smart Satellites</i>
3:30	Kyle Henderson - <i>Smart Structures in Space Systems</i>
4:00	Afternoon Break with refreshments
4:30 Group Discussions Current Use of Active Materials / Smart Structures Group 2a: Brian Sanders - <i>Future of Active Materials and Smart Structures in Air Vehicles</i> Group 2b: Greg Agnes - <i>Future of Active Materials and Smart Structures in Space Systems</i>	
5:30	Group Briefings
6:00	Reception and Tour of the George Bush Library and Museum

Thursday, September 21, 2000

	Propulsion / Materials
7:30	Continental Breakfast
8:00	Sanford Fleeter – Smart Structures for Gas Turbine Engine Applications
8:30	Charles Cross – <i>USAF Gas Turbine Engine Program</i>
9:00	Jeigh Shelley – <i>Potential of Smart Structures in Rocket Propulsion</i>
9:30	Vijay Varadan – <i>Active Materials / MEMS for Space Applications</i>
10:00	Greg Carman – <i>MEMS with Active Materials</i>
10:30	Morning Break with refreshments
11:00 Group Discussions Aerospace Applications / Propulsion Group 3a: Charles Cross – <i>Applications of Smart Structures for Air Breathing Vehicle Propulsion</i> Group 3b: Jeigh Shelley – <i>Applications of Smart Structures for Solid Propellant Vehicle Propulsion</i>	
12:30	Lunch – Speaker Vipperla Venkayya
	Active Materials / Smart Structures
2:00	Robert McMeeking – <i>Damage Tolerance of Active Materials</i>
2:30	Robert Skelton – <i>Design and Control of Smart Structures</i>
3:00	John Junkins - <i>Adaptive Control</i>
3:30	Joseph Duffy – <i>Tensegrity Structures</i>
4:00	Afternoon Break with refreshments
4:30 Group Discussions Impact of Smart Structures on Air Force Technologies Group 4a: Janet Sater – <i>How far have we come and where do we go from here? (Air)</i> Group 4b: Robert Rogowski – <i>How far have we come and where do we go from here? (Space)</i>	
5:30	Group Briefings
7:00	Banquet at Messina Hof Winery with performance by Aggie Wranglers

Call for Abstracts



AERO-SMART 2000

*A Workshop Sponsored by the
Air Force Office of Scientific Research*



September 20-21, 2000

***George Bush Presidential Library and Conference Center
Texas A&M University, College Station, TX***

The purpose of this workshop is to provide an in-depth look at the progress in active materials and smart structures with an emphasis on Air Force systems. The technology of smart structures promises a large number of potential uses and performance enhancements for air vehicles and space systems. This workshop will bring together researchers from academia, the National Labs and the aerospace industry with the focus of the discussion on Air Force systems. Every effort will be made to make the workshop a two-way stream and expose researchers to the problems and needs of the Air Force as well as presenting state-of-the-art research related to active materials and smart structures. Topics to be discussed are, among others, actuator/sensor concepts, aerodynamic control using active materials, active propulsion systems, and smart space systems.

General Information

The Workshop will be held at the Presidential Conference Center at Texas A&M University in College Station, Texas. It will span two and a half days with about 40 presentations in a single session format with break out sessions for round table discussions. Approximately half of the presentations will be invited, the other half will be selected from submitted abstracts.

Location

College Station is located in central Texas, approximately 100 miles from Houston and Austin and 180 miles from Dallas. It is easily accessible by air from Dallas or Houston on American or Continental commuter flights. If you prefer to rent a car, College Station is less than two hours from Houston Intercontinental Airport or Austin Bergstrom Airport.

Lodging

To make lodging reservations, call the Hilton Hotel at (409) 693-7500 to reserve your room at a special rate of \$60/night plus tax. To receive the special rate, you must

identify yourself as a participant in the "AFOSR" workshop and make your reservations no later than September 8, 2000. To make reservations at the Memorial Student Center (MSC) on the Texas A&M University campus, call (409) 845-8909. A special rate of \$45/night plus tax has been negotiated for lodging at the MSC. Again, you must mention the "AFOSR" workshop in order to receive this special rate.

Registration

Registration for the workshop will be \$125. Registration is due by July 31, 2000. You may register by downloading a registration form from the conference web site, cmc.tamu.edu/aerosmart2000/registration or by calling (409) 862-4266 to request a registration form.

Organizing Committee

Dimitris C. Lagoudas, Texas A&M University

E-mail: dlagoudas@aero.tamu.edu

Maj. Brian Sanders, AFRL Air Vehicles Directorate

E-mail: Brian.Sanders@va.wpafb.af.mil

Charles Cross, AFRL Propulsion Directorate

E-mail: charles.cross@pr.wpafb.af.mil

Steven Griffin, AFRL Space Directorate

E-mail: griffin@plk.af.mil

Ed White, Boeing Company

E-mail: edward.v.white@boeing.com

Schedule

1 February 2000 Submission of one-page abstracts to
due to aerosmart2000@aero.tamu.edu

1 April 2000 Notification of acceptance of abstracts –
preliminary program

31 July 2000 Registration due

31 August 2000 Deadline for submission of presentations

The conference web site is located at
<http://cmc.tamu.edu/aerosmart2000.html>

To register or for more information, contact:

Dimitris C. Lagoudas at (409) 845-1604 or Lona Houston at (409) 862-4266

Fax: (409) 845-6051, E-mail: aerosmart2000@aero.tamu.edu